

## REMARKS

Claims 1-35 are pending in the application. Claims 1, 2, 10, and 29 have been amended, leaving claims 1-35 pending for consideration upon entry of the present Amendment. Applicants respectfully request reconsideration in view of the Amendment and Remarks submitted herewith.

The Examiner has stated that the subject matter of the application admits illustration by a drawing to facilitate the understanding of the invention. The Examiner has required the Applicants to submit a drawing. Applicants submitted Figures 1-15 when the application was filed. The drawings were part of the original international application and were attached to the original international application when the Applicant entered the U.S. national stage. For ease of review, Applicants are submitting these figures again.

Claim 2 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that application regards as the invention. Applicants have amended claim 2. Accordingly, Applicants respectfully request that this rejection be withdrawn.

Claims 1, 2, 29, and 33 stand rejected under 35 U.S.C. §102(b) as being anticipated by Nomura et al. (US 4,263,356 ) ("Nomura"). "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Moreover, "[t]he identical invention must be shown in as complete detail as is contained in the \* \* \* claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

The Examiner asserts that Nomura discloses the sounding shielding element for protection from the propagation of sound from a noise area of a room comprising at least one layer with a plurality of small perforations formed in the layer wherein the average diameter or width ranges between 0.001 and 2 mm and a hole/surface ratio ranges between 0.001 and 20%. The Examiner also asserts that Nomura discloses that the material is used to cover sound generating structural parts.

Claim 1, as amended, include the following limitation: "wherein an average

diameter or width of said perforations ranges between 0.001 and 0.7 mm and a hole/surface ratio ranges between 0.001 and 8 % so that sound waves entering said perforations initiate physical effects in a gas volume contained in said perforations.” The claim now clarifies that it is important for the present invention to use a particular diameter or width of the perforations and a particular ratio between the perforations and the surface of the panel. In particular, claim 1 now requires that the average diameter or width of the perforations ranges between 0.001 and 0.7 mm and the hole/surface ratio ranges between 0.001 and 8%. These preferred ranges were disclosed in the specification at page 8, lines 9-16. Moreover, the claim clarifies that the sound waves entering the perforations initiate physical effects in the gas volume contained in the perforations. See page 14, the last paragraph. As such, the perforations themselves act as a sound absorbing means. Nomura does not teach or suggest those limitations.

Applicants also have submitted a sketch to further illustrate this sound absorbing means. This sketch is merely for illustrative purposes and is not intended to be entered as a formal figure in the application. Nomura describes a laminate composed of separate layers, comprising porous continuous bubble plastic foam and further foamed plastic layers comprising holes. Nomura does not recite that impinging waves create physical effects within the holes. On the contrary, the metal lath fused to one of the layers is necessary to form spacious chambers that function as the “dampening or absorbing means.”

Moreover, Nomura does not teach or suggest the preferred ranges that are now claimed in claim 1. Nomura describes that the ratio is between 1 and 50%, which is greater than the most optimal range found by the inventors of the present invention.

Finally, Nomura requires use of a metal lath in order to stiffen the foamed plastic layers. Claim 1 does not require any additional stiffening means.

As for claim 29, that claim has also been amended to claim the preferred range for the average diameter or width of the perforations ranges between 0.001 and 0.7 mm and the hole/surface ratio ranges between 0.001 and 8%. This preferred range is a patentable distinction in that the preferred ranges allow for a more optimal operation to absorb the sound.

Thus, because Nomura does not teach or suggest all of the claimed limitations, Nomura does not anticipate claims 1 and 29. Because claims 2 and 33 include all of the limitations of claims 1 and 29, respectively, Nomura does not anticipate claims 2 and 33. Accordingly, Applicants respectfully request that the Examiner withdraw the rejection as to claims 1, 2, 29, and 33.

Claims 3, 5-10, 13, 15, 16, 30, and 31 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nomura in view of Flocke et al. (US 4,347,912) ("Flocke"). For an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Nomura and Flocke do not teach or suggest all of the limitations of the claims.

Claims 3, 5-10, 13, 15, and 16 include all of the limitations of claim 1 and claims 30 and 31 include all of the limitations of claim 29. Thus, claims 3, 5-10, 13, 15, and 16 include the following limitation: "wherein an average diameter or width of said perforations ranges between 0.001 and 0.7 mm and a hole/surface ratio ranges between 0.001 and 8 % so that sound waves entering said perforations initiate physical effects in a gas volume contained in said perforations." In addition, claims 30 and 31 include the limitations for the average diameter or width of the perforations ranges between 0.001 and 0.7 mm and the hole/surface ratio ranges between 0.001 and 8%.

As explained above, Nomura does not teach or suggest all those limitations. Moreover, Flocke also does not teach or suggest those limitations. Flocke teaches a laminate of different plates and layers wherein the perforated plate of gypsum needs a cover layer 5 attaching the plate 6 with the non-woven fabric, comprising a particular air flow resistance that non-woven fabric functions as the sound absorbing element. The present invention, however, does not need such additional sound absorbing non-woven fabric. In fact, claims 3, 5-10, 13, 15, and 16 require that the sound waves entering the perforations initiate physical effects in the gas volume contained in the perforations. As such, the perforations themselves act as a sound absorbing means.

Furthermore, Flocke teaches the hole-area proportion of 20% (see col. 4, line 5), which is much higher than the hole/surface ratio that is claimed. Flocke also teaches that

the diameter of the holes are 3 mm (see col. 5, lines 21-22), which is also much higher than the hole diameter that is claimed.

Thus, because neither Nomura nor Flocke, either individually or in combination, teach or suggest all of the claimed limitations, claims 3, 5-10, 13, 15, 16, 30, and 31 are patentable over Nomura and Flocke. Accordingly, Applicants respectfully request that the Examiner withdraw the rejection as to claims 3, 5-10, 13, 15, 16, 30, and 31.

Claims 17-26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nomura in view of Flocke and Van Ligten (US 5,959,265). Claims 17-26 include all of the limitations of claim 1. Thus, as discussed above, Nomura and Flocke do not teach or suggest all of the limitations of claims 17-26 and Van Lighten does not remedy the deficiencies.

Van Ligten teaches forming a structure of a laminate of two reflecting layers kept in a distance from each other. The function thereof depends on the wave length requiring much bigger hole diameters (between 4 and 11 mm – see col. 1, line 48) than the claimed limitations. The sound absorber of Van Ligten needs an adjacent sound-reflecting surface in order to create interferences because of the phased shifted waves of the Helmholtz resonator. On the contrary, the claimed invention does not need such additional adjacent sound-reflecting surface.

Thus, because Nomura, Flock, and Van Ligten, either individually or in combination, teach or suggest all of the claimed limitations, claims 17-26 are patentable over Nomura, Flocke, and Van Ligten. Accordingly, Applicants respectfully request that the Examiner withdraw the rejection as to claims 17-26.

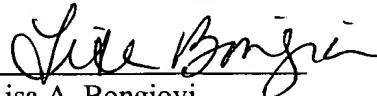
In addition, attached hereto is a marked-up version of the changes made to the application. The attached page is captioned “**Version with Markings to Show Changes Made.**”

In view of the foregoing, it is respectfully submitted that the instant application is in condition for allowance. Accordingly, it is respectfully requested that this application be allowed and a Notice of Allowance issued. If the Examiner believes that a telephone conference with Applicants’ attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned.

In the event the Commissioner of Patents and Trademarks deems additional fees to be due in connection with this application, Applicants' attorney hereby authorizes that such fee be charged to Deposit Account No. 06-1130.

Respectfully submitted,

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## MARKED UP VERSION TO SHOW CHANGES MADE

### IN THE CLAIMS:

Please amend claims 1, 2, 10, and 29 in “marked up” format, as follows:

1. (Marked up/ Twice Amended) Sound shielding element for protection from the propagation of sound from a noise area of a room or space into a neighbouring room or space, comprising:

at least one panel or layer; and

a plurality of small perforations formed in said at least one panel or layer;

wherein an average diameter or width of said perforations ranges between 0.001 and 2-0.7 mm and a hole/surface ratio ranges between 0.001 and 20-8 % so that sound waves entering said perforations initiate physical effects in a gas volume contained in said perforations.

2. (Marked up/ Twice Amended) Sound shielding element according to Claim 1, wherein said sound shielding element is adapted to cover at least one of sound-reflecting and/or sound generating structural parts.

10. (Marked up/ Twice Amended) Sound shielding element according to Claim 7, wherein said ~~moulded part~~ panel presents a thickness between 0.05 and 4 mm, particularly between 0.2 and 1 mm.

29. (Marked up/ Twice Amended) Method of producing a sound shielding element for protection from the propagation of sound from a noise area of a room or space into a neighbouring room or space, the sound shielding element including at least one panel or layer and a plurality of small perforations formed in said at least one panel or layer, wherein an average diameter or width of said perforations ranges between 0.001 and 20.7 mm and a hole/surface ratio ranges between 0.001 and 20-8 %, the method comprising forming said panel or layer by fusing or bonding particles or fibers.